

## UNITED STATES OF AMERICA

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## FEDERAL COMMUNICATIONS COMMISSION

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## PUBLIC SAFETY NATIONAL COORDINATING COMMITTEE

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## INTEROPERABILITY SUBCOMMITTEE

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WEDNESDAY

JULY 16, 2003

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The Subcommittee was called to order at 9:28 a.m. in the Commission Meeting Room of the Federal Communications Commission, 445 12<sup>th</sup> Street, S.W., Washington, D.C., Glen Nash, Chairman, presiding.

## PRESENT:

JOHN POWELL	Subcommittee Chairman
DAVE BUCHANAN	Member
STEVE DEVINE	Member
MICHAEL WILHELM	Designated Federal Official

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P-R-O-C-E-E-D-I-N-G-S

9:28 a.m.

CHAIRMAN POWELL: On the record. For those of you that did not download copies of the agenda and several other documents, they are over on the table on my left. Our usual secretary isn't with us. We're going to try to go on. His stand-in is going to take the job for us today. Burt, do we have access to the projects today? We have one table that going to be a lot better to put up there since it's in color then to try and hand out copies of it.

If everyone has copies of the agenda, we'll convene the meeting. I could have taken number two off of the agenda since we aren't going to have any further meetings as far as additional members of the Subcommittee. Are there any additions or changes to the agenda that anyone would like to offer from the floor? Seeing none, we will move ahead with the agenda as it was published.

Minutes from the last Washington meeting are pending. Hopefully we'll get those out by tomorrow. Otherwise they will be included in the

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1 compendium that Bob Schlieman is putting together,  
2 Michael, for the final report from the Subcommittee.

3 I also distributed a document update  
4 yesterday which has all of the documents through this  
5 meeting on it. Those of you on the list server  
6 should be able to get that if you need it. Otherwise  
7 I can give it to you electronically.

8 Agenda Item No. 6 for Working Group I,  
9 Bob Schlieman is not here. He has been collecting  
10 documents. I will get him the final documents. We  
11 have to go through and make sure we have the latest  
12 versions of those. He will then incorporate them  
13 into a final report that will be submitted to the  
14 Commission unfortunately after we're all done here.  
15 But at least there'll be a record of all the  
16 documents electronically.

17 From PSWN, do we have any additional  
18 information on the operations side?

19 MR. PICKERAL: David Pickeral, -?  
20 Hamilton Business Program Support. To my knowledge  
21 the PSWN program doesn't have anything to add but  
22 perhaps later in the day, Rick Murphy or some of the

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1 others from the PSWN program may be there. I know  
2 there are no major illuminating issues we have. I  
3 think everything is pretty much done from our  
4 perspective.

5 CHAIRMAN POWELL: Okay. To the meat of  
6 today's meeting, Working Group III, actually both  
7 Steve and Dave have some major items to discuss  
8 today. So, Steve, I'll turn it over to you. We did  
9 distribute a document this morning and there are  
10 limited number of copies. It's one that I can put up  
11 on the screen if we need to.

12 At the last meeting just as background,  
13 Michael asked for some specific rule language with  
14 regards to some of the proposals that we had. That  
15 document I gave you there is in draft form. We  
16 actually wrote it as if we were writing it for the  
17 Commission for rulemaking. I think you'll see that  
18 from the text. So, it addresses SIEC creation  
19 requirements renaming an expansion among others.  
20 While you get started on that, Steve, what I'm going  
21 to do is get the frequency chart ready to display it.

22 COMMISSIONER DEVINE: Thank you, John.

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1 One of the issues we brought up at the last meeting  
2 was the concept of the SIEC expansion and perhaps  
3 renaming to a body that might indicate more inclusive  
4 participation from local agencies' concept of a  
5 statewide interoperability executive committee that  
6 inferred perhaps some control and some administration  
7 and management on the state side but not necessarily  
8 control.

9 Some states have formed SIECs that vary  
10 in nature. Some are actually involved in their  
11 procurement process for grant money dispersion and  
12 some actually control the state license spectrum and  
13 700 and some are actually venturing out of the 700  
14 environment and controlling interoperability or at  
15 least recommending interoperability parameters both  
16 operation and technical outside the 700 band.

17 So we were looking for some kind of a  
18 standardization and have come up with a couple of  
19 recommendations, many of which will probably generate  
20 some discussion which is good. The first is to  
21 mandate a statewide interoperability executive  
22 committee and for the Commission to mandate somebody

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1 which could be an existing body within the state but  
2 they will have some parameters indicating that it's  
3 inclusive and not exclusive in its participation and  
4 in the conclusions. Because as we all know, the  
5 people who use the channels in the state really make  
6 up all of the public safety entities at all levels of  
7 government.

8 We can envision the Commission issuing a  
9 notice stating that it needs to form and they need to  
10 be provided copies of the meeting notice in a  
11 distribution similar how regional planning committees  
12 are disseminated and how the information is put out  
13 on those as well as a convener being established and  
14 a chairperson being elected at the first meeting.

15 Like I said, we're not talking about an additional  
16 burden I don't think any more than what's going on.

17 In many states, there are existing bodies but perhaps  
18 some of their characteristics, for example, being  
19 inclusive to local agencies, might be a little  
20 different twist to it.

21 So that's an idea. One of the reasons  
22 for that idea is we feel that the SIEC probably

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1 should be responsible for a product and that product  
2 should probably be a document indicating exactly what  
3 the use is of those interoperable channels within the  
4 state. As we all know, each states uses them  
5 differently with different parameters and different  
6 operational requirements. We are talking about  
7 improving the communication between regions and  
8 between states to promote the awareness of how these  
9 channels are used.

10 The SIEC being required, they would also  
11 be required to produce a document that would be  
12 updated every three years and posted on a database  
13 that could be made aware to the other adjacent  
14 regions and all other public safety entities as it's  
15 simply a promote awareness concept that we feel is  
16 long overdue because many of us don't know how our  
17 neighbors use things. To put the arms around that,  
18 it's not as much indicating what people should do or  
19 shouldn't do. There should be consensus reached and  
20 then the conclusions should be disseminated.

21 A lot of what's gone on in the past is  
22 that people have plans and they are stuck in

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1 somebody's file folder. That's not a good way to  
2 communicate. Those are some of the concepts with  
3 regard to the SIEC expansion, renaming and mandating  
4 the SIEC.

5 In addition, we spoke at the last meeting  
6 regarding the expansion of the SIEC into the other  
7 bands in the associated interoperability channels.  
8 John is going to put up a spreadsheet that's the  
9 recommendation. It was indicated last time.

10 There are some designated channel  
11 conventions and channel names with sequential numbers  
12 associated with them and band indicators that we  
13 think also should be recommended and required in as  
14 far as after a certain point the equipment should be  
15 programmed with these mandatory channel displays  
16 after a certain point allowing some period of time  
17 for migration. When that channel is put in, it will  
18 only display this name. So he is going to show some  
19 of those recommended channel names that we have been  
20 working on here for the last six months or so.

21 That should paint a pretty good picture  
22 as to exactly what we are discussing there. So we

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1 have renaming to statewide interoperability executive  
2 committees, mandating and also the expansion of the  
3 authority into the VHF/UHF perhaps even the NTIA  
4 Redbook channels when available 800. We would like  
5 to see the Commission issue a proceeding that  
6 addressed interoperability spectrum as a unique band  
7 as a unique group of channels that spans multiple  
8 bands.

9 Those are some of the highlights in this  
10 document. There is some additional language and some  
11 parameters. We also have a copy of some minimum  
12 interoperable guidelines. It's actually an example  
13 of what one of these operational plans could be. It  
14 specifically addresses VHF and UHF but it's an  
15 example of what some of the operational and technical  
16 issues that need to be addressed so it's a good  
17 starting point.

18 Where exactly these plans from each state  
19 would be posted is a topic. The NPSTC database  
20 certainly would be one candidate for that as long as  
21 people are aware of where they can be accessed and  
22 the information should be current. It really doesn't

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1 make a difference where it's posted. In this  
2 particular instance, it's doing a better job of  
3 communicating how we utilize these channels and that  
4 goes for 700. Some of the same issues we've  
5 addressed in 700 through the NCC process actually  
6 would benefit the dedicated interoperable spectrum in  
7 other bands.

8 MR. WILHELM: Steve, I have one comment.

9 You said you had drafted this document so it read  
10 like an FCC rule. I think you've achieved that. On  
11 the second page, it says "SEICs will annually provide  
12 an updated version every three years."

13 COMMISSIONER DEVINE: At 1:30 a.m., those  
14 things began to blur last night.

15 MR. WILHELM: But that sounds like one of  
16 our rules. Thank you very much.

17 COMMISSIONER DEVINE: Duly noted. I told  
18 John this morning if nothing else make sure you put  
19 "DRAFT" on the bottom there. It needs to be reviewed  
20 but in concept those are the highlights. We were  
21 hoping to get some feedback today on how this general  
22 concept would be. It appears to be make sense in

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1       some areas. I couldn't tell you that there wouldn't  
2       be some areas that say "We've called this channel  
3       this for so many years and we're going to continue to  
4       call it that until our last day."

5               So there's going to be some issues with  
6       that but it's not as much telling people how it is  
7       that they need to do business. It's just  
8       communicating between us how we do business to better  
9       interoperate. That goes both intrastate and  
10      interstate.

11             MR. WILHELM: Are there any changes from  
12      the document that you submitted previously, the  
13      channel nomenclature?

14             COMMISSIONER DEVINE: Yes, there are  
15      some. In the previous document, for example, the  
16      NTIA Redbook, UHF channels actually began with a one  
17      instead of a four. There's some little  
18      idiosyncracies that we've corrected since then.  
19      We've also actually added the subscriber unit  
20      mandatory channels in 700. I think it's just two  
21      calling channels and six IO channels. We've added  
22      those. There are some language on that so we fine

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1       tuned it a bit more. It's generally the same  
2       document.

3               CHAIRMAN POWELL: We didn't add anything  
4       that we haven't discussed before. What we did is we  
5       make some typographical corrections and we added some  
6       into this latest matrix which is what I was hoping to  
7       display on the screen. We added some additional text  
8       to document decisions that were reached earlier and  
9       to actually include them into that matrix.

10              MR. WILHELM: Okay. Thanks.

11              CHAIRMAN POWELL: That was distributed  
12       and I e-mailed that to you.

13              MR. WILHELM: Yes, I have it.

14              COMMISSIONER DEVINE: We're getting  
15       closer on that. There's a lot of opportunities for  
16       talkarounds and non-talkarounds and we went through  
17       it last night once again later in the evening or  
18       earlier in the morning as it goes. But I think we're  
19       getting down to finding very few errors on the  
20       document up until now.

21              CHAIRMAN POWELL: I would say that the  
22       document at this point is that it's in its final

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1 form. I was hoping to be able to display it so we  
2 could take a look at it. It is in its final form. I  
3 would like to thank Dave Eierman and a few others  
4 that worked on putting that into the nice color  
5 matrix that it's now in.

6 COMMISSIONER DEVINE: Any comments or  
7 reaction or discussion on all band interoperability  
8 and some of the parameters and some of the issues  
9 that might arise from that, we would certainly like  
10 to hear some comments from the group.

11 COMMISSIONER BUCHANAN: I have one  
12 question.

13 COMMISSIONER DEVINE: Certainly.

14 COMMISSIONER BUCHANAN: If the states for  
15 whatever reason do not form an SIEC then this is  
16 still back to the regional plan to do that function.

17 COMMISSIONER DEVINE: As long as it's  
18 inclusive but I think we really should strive to have  
19 a group that's named statewide to make everybody  
20 aware that it's not controlled by any individual  
21 entity and it is inclusive. So if the RPC wants to  
22 have a subcommittee that is their statewide

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1 interoperability executive committee but I think  
2 there should be a body that has that title so  
3 everybody's aware of its function and what its  
4 responsibilities are.

5 If that falls to the RPC, then that's  
6 fine. I would really like to see a mandate. I don't  
7 how much it can be mandated in today's world. I  
8 don't know if that's doable or not.

9 COMMISSIONER BUCHANAN: Well, I guess  
10 that's my question. I don't think the FCC can order  
11 the states to form some committee if they feel they  
12 don't want to. But certainly the way they have it  
13 written now, it falls back to the regional planning  
14 groups though. I think if it stays that way it would  
15 be fine.

16 COMMISSIONER DEVINE: But I think as long  
17 as it's indicated and the RPC process is inclusive  
18 inherently so.

19 CHAIRMAN POWELL: The idea, David, was  
20 that there would be an SIEC in each state. It could  
21 be a state function or it could be a subcommittee of  
22 the RPC for lack of a better word describing it.

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1           Let me give people some background on  
2           that. We had a meeting with SAFECOM several months  
3           ago in its current format. They are extremely  
4           interested in having a single point of contact within  
5           the states and access to documents so that if there  
6           is a major incident, they can pull up real time, the  
7           frequency configurations, which agencies are in which  
8           bands, etc. in the area that's impacted to be able to  
9           devise an appropriate communications response.

10           COMMISSIONER DEVINE: And keep in mind  
11           now we're getting more and more public safety  
12           interoperability channels that aren't discipline  
13           specific so that really requires some better  
14           communication between agencies both in-state and out-  
15           of-state, interstate agencies that butt up against  
16           each other. We need to do a better job of  
17           communicating what it is we're doing and how we're  
18           doing it.

19           CHAIRMAN POWELL: And also out of that  
20           meeting was SAFECOM came and requested that these  
21           interoperability documents be housed in a single on-  
22           going warehouse so that they could be accessible of

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1 course and controlled so that only appropriate people  
2 have access to them.

3 COMMISSIONER DEVINE: The renewal process  
4 simply came out so it wasn't just some archaic  
5 document that wasn't current and it really shouldn't  
6 be there. So it's the three year renewal or whatever  
7 it would take, but I would like to think if something  
8 drastically changed with regard to the use of  
9 interoperability spectrum in a state it would be  
10 updated. Emil.

11 MR. VOGEL: Emil Vogel. Just a question  
12 on the lower bands below 700. Are you talking of the  
13 newly identified interop channels only?

14 COMMISSIONER DEVINE: Yes. There's  
15 actually designated discipline specific  
16 interoperability channels in low band. They are  
17 limitation 19 channels as well as the VHF and UHF,  
18 police mutual aid, those things. We are not thinking  
19 of a concept to change the way people use those  
20 things. We're probably just wanting to communicate  
21 better as to what it is we're doing with them.

22 MR. VOGEL: Okay, because there are none

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1       somewhere else.

2                   COMMISSIONER DEVINE:   Right.

3                   MR. VOGEL:   The second question was on  
4       the multi-state you need to keep that regional as  
5       Dave brought out.   You need to keep it together  
6       because otherwise the Region 8s and the ones in  
7       California were bumped up against each other.

8                   COMMISSIONER DEVINE:   Right.

9                   CHAIRMAN POWELL:   The real problem, Emil,  
10      there is the interoperability.   The SIECs really need  
11      to operate on a state-basis, and when you get into a  
12      multi-state situation with an SIEC, it can really get  
13      complicated because of the mutual aid packs that our  
14      state government function by definition.

15                   I think we are lucky in that where we  
16      have multi-state regions there are SIECs in each of  
17      the states that have taken that.   I'm not aware of  
18      any state that's a participant in a multi-state  
19      region that does not have an SIEC.   Whether they are  
20      meeting it or not is another question to be  
21      addressed.   Certainly California's is not met yet.  
22      It would be a problem if we had a multi-state

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1 regional planning committee trying to assume an SIEC  
2 role. What I'm going to do, Steve, is I'm going to  
3 dump this onto a floppy and we'll ask them if they  
4 can display it from in there.

5 COMMISSIONER DEVINE: Okay. Any other  
6 comments?

7 MR. PICKERAL: David Pickeral. John, I'm  
8 just going to verify your comment. To our knowledge,  
9 every state, all 50 now because there were a couple  
10 that were stragglers, has indicated at the very least  
11 the intent to form an SIEC or SIEC-like entity in  
12 every region. Again whether they have done anything  
13 or not but as a matter of fact they have indicated  
14 that intent.

15 CHAIRMAN POWELL: Yes, I don't believe  
16 that the governors have sent all the letters in yet.  
17 You may be correct. Certainly I know in the case of  
18 Colorado that they are intending to form one but I  
19 don't believe the Governor has a letter in yet.

20 MR. PICKERAL: They haven't formalized it  
21 but there's an intent across all 50 states. Actually  
22 I think Nevada was the last one that we knew about or

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1       that they've filed it.

2                   CHAIRMAN POWELL:   Ron.

3                   PARTICIPANT:   (Off microphone.)

4                   CHAIRMAN POWELL:   I'm just going to put  
5       it on a floppy.   We can try your laptop, too, if you  
6       want to.   It's the same as mine.   We may have the  
7       same problem with your interface.

8                   COMMISSIONER DEVINE:   I'd like to ask a  
9       question.   Does anybody have any ideas as to what  
10      might be a better way to ensure inclusivity in this  
11      process?   What we don't want is a body indicating  
12      that it's their channels and they are in charge and  
13      not getting the input and responding to the input  
14      from the entities working within the region or within  
15      the state or however we want to look at it.   Is there  
16      any better way to promote inclusivity than changing  
17      the name?   We are certainly open to any of those  
18      things.   We just don't want it to be a closed  
19      environment.   We want to make sure that people who  
20      need to talk together are able to do that and able to  
21      share those parameters with each other.

22                   CHAIRMAN POWELL:   Okay, for those of you

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1 who have not seen it, this is the latest. What's  
2 that?

3 PARTICIPANT: Still can't see it.

4 CHAIRMAN POWELL: Unfortunately this  
5 doesn't display the whole table if we do it this way  
6 but the frequencies are all listed along with their  
7 applicable channels.

8 COMMISSIONER DEVINE: There is also the  
9 VHF public host channels that have been designated at  
10 00348 I believe. They are also indicated on there  
11 with channel names. Do you want to just describe the  
12 sequence, John?

13 CHAIRMAN POWELL: Yes, I want to point  
14 out at cell number four here that we've added in the  
15 table this proposed 3948 as an input channel so that  
16 there is a pair that can be configured in a mobile  
17 relay configuration and low band for fire. There was  
18 one existing for law enforcement but not for fire.  
19 What Steve just referenced there with the ?

20 COMMISSIONER DEVINE: Scroll over to the  
21 naming convention with the sequential numbers.

22 CHAIRMAN POWELL: So as you'll see here

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1 coming down, these numbers are sequential. There is  
2 no duplication of numbers throughout the entire span  
3 of interoperability channels. It goes up into the  
4 90s now including all the bands other than the  
5 addition of the letter D afterwards to show whether  
6 you are operating through a mobile relay or direct on  
7 the output where you have a paired channel.

8 So if you say 16, there is only one  
9 interoperability channel 16 in the entire table of  
10 channels. That by definition would be this law  
11 channel, whatever the frequency is here. We have to  
12 slip back over to the side, 155340. We've included  
13 actually for example 18-155-475 which in the past had  
14 been called the National Law Enforcement Channel.  
15 We've included that in the table. A number of states  
16 have referred to the 154-280-265-295 as fire wide  
17 certainly across the western states. That way those  
18 have been renamed into this convention also.

19 COMMISSIONER DEVINE: The other issue is  
20 the 154-280-265 and 295 as well as the three  
21 interstitials also are provided at limitation 19 so  
22 if rebanding can be accommodated, there is actually

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1 some additional channels that can be utilized with  
2 that limitation within the fire service as well. As  
3 narrow band moves forward, then those things become  
4 more of a potential.

5 CHAIRMAN POWELL: Within this document,  
6 we have in the final one which comes to the Steering  
7 Committee tomorrow a recommendation for four  
8 footnotes in the Table of Allocations for  
9 interoperability channels. They will read as a  
10 limitation for interoperability use only. Then there  
11 will be for interagency interoperability use. Then  
12 three of them will say primary for law, fire and EMS.  
13 Then one of them will be for all agency. But we are  
14 not going to make them exclusive. It will be primary  
15 use by law, fire and EMS on some of the channels as  
16 is the case today for the tables.

17 PARTICIPANT: If you could get me  
18 electronic copy.

19 CHAIRMAN POWELL: Yes. So as you go down  
20 through this ?

21 COMMISSIONER DEVINE: John, make that  
22 150. Just go in there and type over it.

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1                   CHAIRMAN POWELL: Let's see how this  
2 works. This at least shows the frequencies and the  
3 use. Here we have the Federal channels which have  
4 been included. These are the Redbook channels. They  
5 are the same as you'll recall from the last meeting  
6 except that the letter "F" is added in front to show  
7 that they are Federal.

8                   We did make a change and I'll mention one  
9 of the changes. This group right here in the 400  
10 band and the table that we had last time, we  
11 incorrectly put a 1 in front of these instead of a 4  
12 in the first character designating the band. That's  
13 been corrected.

14                  COMMISSIONER DEVINE: Those are all  
15 indicated as FTACs with the exception of the calling  
16 channels listed in those Redbooks which are FCALLs.

17                  CHAIRMAN POWELL: I was hoping that some  
18 of the Federal users would be here today. This first  
19 group and actually both of the Redbook pairs shows  
20 NTIA law enforcement. I don't know if there's an  
21 intent because they are adjacent to Federally law  
22 enforcement channels to restrict those for law

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1 enforcement only. In which case, we should probably  
2 change those to LAW instead of TAC.

3 I don't know what the Federal  
4 Government's intent was on those. I think we prefer  
5 to have them available for any agency to use but they  
6 are to use but they are adjacent to the Federal law  
7 enforcement channels.

8 COMMISSIONER DEVINE: The Redbook  
9 channels were divided into two groups, Incident  
10 Response and Law Enforcement. There is VHF and UHF  
11 in each. We're not really exactly sure what they  
12 used for them internally or how that works.

13 MR. EIERMAN: David Eierman, Motorola. I  
14 think law enforcement is general use for all law  
15 enforcement. They don't normally have fire and EMS  
16 except for certain like DOD base operations or  
17 something. To them, it's all general tactical  
18 channels.

19 COMMISSIONER DEVINE: Whether they  
20 differentiate or not, if they don't, we probably  
21 don't need to either.

22 CHAIRMAN POWELL: We'll attempt to

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1 clarify that if some of the their members show up  
2 later today. That actually is probably about the  
3 only remaining issue in this table. If we go  
4 through-- this is just a general listing of channels.

5 We have added the notations for secondary trunks.  
6 If I can get way over on the side, I'm going to try  
7 to pick some of the other notes here. These are all  
8 split down into 700 channels.

9 That's all band. The mandatory channels,  
10 this is the group. It would actually take 16  
11 channels on each radio for interoperability because  
12 it would include the talkaround as well as the  
13 repeater side of the channels. Those would be the  
14 mandatory channels on all radios. It's the two  
15 calling channels and two of the general use channels  
16 out of each of the 700 splits. Again that's our  
17 action we took in prior meetings but they are now  
18 indicated in this document. Emil.

19 MR. VOGEL: Emil Vogel. John, are you  
20 saying these are mandatory?

21 CHAIRMAN POWELL: Absolutely. That was  
22 the decision we made. These would be in every

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1 subscriber radio.

2 MR. VOGEL: In 821, we left it up to the  
3 agency. They had to be capable of programming it  
4 there, but they didn't require them to put it in the  
5 radio in operation. I'm thinking of places like New  
6 York City where you have 40,000 cops and 12,000 to  
7 15,000 firemen and you're going to put 16 interop  
8 channels in every one. Am I reading you correctly?

9 CHAIRMAN POWELL: Yes, you are and that's  
10 a decision this Subcommittee made several meetings  
11 ago when we identified the channels.

12 MR. VOGEL: That's the 700.

13 CHAIRMAN POWELL: 700.

14 MR. VOGEL: Only.

15 CHAIRMAN POWELL: Only, right. The idea  
16 there was that wherever any radio showed up anywhere  
17 in the country there would at least be the two  
18 calling channels and the four working channels  
19 available assuming the entire band was useable there.

20 Six, three in each site. Where did our pretty  
21 picture here go to?

22 COMMISSIONER DEVINE: You have to go

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1 down.

2 CHAIRMAN POWELL: Here we go. This is  
3 the wide band layout. This shows the reserve  
4 spectrum as well as the wide band interoperability  
5 channels and the A, B and C layout and the different  
6 ways those could be configured between 100 and 150  
7 kilohertz allocation. It also shows the four  
8 nationwide common interoperability channels which we  
9 decided at the last meeting should be 50 kilohertz  
10 channels. I think that's pretty much the table.

11 COMMISSIONER DEVINE: We'll have this  
12 available as well once we determine the NTIA labeling  
13 and how that should be labeled. This document will  
14 also then be available.

15 CHAIRMAN POWELL: Any questions on that  
16 or comments? Suggested changes? One of the  
17 suggestions was with representatives from a number of  
18 manufacturers in the room and we've actually included  
19 it in here and want to discuss this morning is a  
20 requirement and we need to pick a time.

21 We were suggesting after five years from  
22 publication that the radio programming software would

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1 no longer allow any different name to be entered into  
2 a channel display than the one that's approved on the  
3 interoperability channels. The manufacturers would  
4 be required within their radio programming software  
5 to not allow any channel nomenclature other than what  
6 is approved on the interoperability channels to be  
7 inserted into a radio on those channels.

8 In other words, if that channel was  
9 programmed into the radio, the standard channel  
10 nomenclature would automatically be loaded after five  
11 years. That would give agencies a five year  
12 transition period on all bands to move to the new  
13 designations.

14 COMMISSIONER BUCHANAN: John, that brings  
15 up a good point because I'm just thinking about the  
16 821 ITAC and ICAL channels. I know in my own system  
17 in the county we have some low end radios that we've  
18 put the mutual aid into them but they don't even have  
19 a display that could display any of this along with  
20 we probably just in the last few years got everything  
21 converted over to ICAL and now it changes again. So  
22 what is the phase in? How did you approach that as

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1 far as existing radios that are already programmed?  
2 Is it going to be a crash effort for everybody to go  
3 out and change them or can they be changed as they're  
4 updated?

5 CHAIRMAN POWELL: That was why we  
6 proposed this change over allowing five years. Is  
7 that enough time?

8 COMMISSIONER BUCHANAN: I'm not sure.  
9 I'm thinking of how long it takes and what is the  
10 penalty if you miss a radio out there? When you have  
11 12,000 radios, it's sometimes very hard to make sure  
12 they'll upgraded.

13 PARTICIPANT: But even if you have a  
14 display, there is no requirement.

15 CHAIRMAN POWELL: Right, because it's  
16 only if they are display radios.

17 COMMISSIONER BUCHANAN: And I'm not  
18 disputing that it should be done. I'm just wondering  
19 on the timeframe if maybe five years isn't enough.

20 CHAIRMAN POWELL: We need to pick a time  
21 and what do people think is appropriate?

22 COMMISSIONER DEVINE: Especially when

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1 we're talking about all bands. Maybe we need to be a  
2 little more open on the back end of that.

3 CHAIRMAN POWELL: Tom Sorley, you have a  
4 big system. Dave has a big system. We say that but  
5 the agency that has only two radios might be the  
6 biggest pain because until they break, they won't see  
7 the shot.

8 MR. WILHELM: John, I'm not sure I  
9 understand your comment. The way you stated it you  
10 said that the manufacturers must use the standard  
11 nomenclature. Now you seem to be talking about  
12 requiring the agencies to have their radios display  
13 that standard nomenclature.

14 CHAIRMAN POWELL: That would be the  
15 effect because when they went to touch a radio after  
16 whatever that period is it's going to load the  
17 standard nomenclature in.

18 MR. WILHELM: But the manufacturer does  
19 it.

20 CHAIRMAN POWELL: No, what would happen  
21 is that one user after whatever period we set plugs a  
22 radio in to program it, it's going to automatically

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1 change those to the standard format. That is the  
2 radio programming software will.

3 AUDIENCE MEMBER: Only if the user has  
4 updated the software.

5 CHAIRMAN POWELL: That's true.

6 MR. WILHELM: But you would impose this  
7 requirement on users and manufacturers.

8 CHAIRMAN POWELL: The intent was to  
9 impose it on manufacturers. I think it would be  
10 difficult to apply to users.

11 MR. WILHELM: But you say whenever  
12 somebody touches a radio to reprogram it they must  
13 program it with ?-

14 CHAIRMAN POWELL: The software to program  
15 in a new standard, the new nomenclature.

16 MR. WILHELM: But the manufacturer  
17 doesn't do that programming.

18 CHAIRMAN POWELL: No, the user does but  
19 the manufacturer software does not allow any other  
20 nomenclature to go in other than the standard on  
21 those channels after whatever period of time that is.  
22 So in other words, it's not going to cause any

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1 change from the users perspective during whatever  
2 that period is. But after that time, it will update  
3 his radio if he has those channels on the radio which  
4 is something of the radio software.

5 MR. WILHELM: Maybe I don't understand  
6 all I know about that. Why don't we talk off-line.

7 CHAIRMAN POWELL: Tom.

8 MR. SORLEY: Tom Sorely, Orange County,  
9 Florida. To answer your question, we reprogram  
10 typically at least once every five years. Most of  
11 the time it's sooner than that. We have to keep our  
12 software updated. We get it updated at least once a  
13 year because the radios we get back from repair  
14 aren't able to be programmed if our software is not  
15 updated.

16 I would say whatever timeframe that you  
17 get the manufacturers to comply with this you're  
18 going to have to add four or maybe five years on top  
19 of that for just the process to take place of the  
20 locals touching every radio. Like you, I have  
21 thousands of radios on my system.

22 Being in the middle of doing that right

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1 now, I don't really want to do any time soon. But  
2 yes, once that's mandated, for the most part most  
3 people update their software quite regularly because  
4 they won't be able to touch the radios and program  
5 them once they come back from the factory. I hope  
6 that answers your question.

7 CHAIRMAN POWELL: So five years would be  
8 a good time for you?

9 MR. SORLEY: Yes, I think that would be a  
10 valid timeframe. I can't imagine anybody going  
11 longer than that without having to reprogram. I mean  
12 somebody else is going to reprogram and force you to  
13 do it in that length of time.

14 COMMISSIONER BUCHANAN: Let me make sure  
15 I have it straight because we've talked two different  
16 things here. Five years for the manufacturer to come  
17 up with the software and then an additional five  
18 years after that to actually to say they have to put  
19 it in the radios.

20 MR. SORLEY: What I'm saying is whatever  
21 time the software has that capability, you have to  
22 tack on an additional four to five years on top of

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1       that for all the radios to have been cycled through  
2       and be touched.

3               CHAIRMAN POWELL:   That wasn't our intent  
4       though in our discussion on this.   The intent is that  
5       the manufacturers could make that change at any  
6       point.

7               MR. SORLEY:   I don't know what timeframe  
8       you're going to give them.

9               CHAIRMAN POWELL:   The point is that after  
10       five years from whatever date it is that the radio  
11       programming software will only allow that channel  
12       nomenclature to be used and nothing else to be put in  
13       for that frequency.

14              MR. SORLEY:   I'm saying after that point  
15       a reasonable expectation is that it will take four or  
16       five years of process for all the radios in the field  
17       to be at the point you inevitably want everything to  
18       be there.   Even though your software is compliant  
19       there's a process.

20              COMMISSIONER DEVINE:   It's going to take  
21       ten years.

22              MR. SORLEY:   Well, however long you give

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1 the manufacturers. If you give the manufacturers two  
2 years, whatever you do it's going to take five years  
3 after that point for all the radios in the field to  
4 effectively have that in them in my opinion.

5 COMMISSIONER BUCHANAN: I would guess  
6 from listening to this that really if you just put  
7 the mandate on the manufacturers to come out in  
8 whatever timeframe, say five years, with the  
9 software, then the radios are going to take care of  
10 themselves after that. It's not going to be  
11 immediate but they are going to have to. So you  
12 wouldn't have to make two different mandates. You  
13 would just have the one.

14 CHAIRMAN POWELL: So, John or Ernie,  
15 what's a reasonable time for manufacturers if we were  
16 to ask that to happen? I know I've asked you all  
17 before if it's possible to do this and everyone said  
18 "Yes, it is." It's a software issue. What's a  
19 reasonable time to ask that to happen? In two years?  
20 Three years? Five years?

21 MR. EIERMAN: David Eierman, Motorola. I  
22 think five years is sufficient. It can probably be

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1 done sooner. I think we have a concern not RSS or  
2 radio software on new versions of radios going  
3 forward. We wouldn't have to go back and redo radio  
4 software on old radios or cancelled models or  
5 whatever else.

6 We do have some concern about making it  
7 in every radio because besides not wanting to go back  
8 and make modifications to old radios, we don't want  
9 to go back and have to modify old software. We have  
10 enough.

11 COMMISSIONER BUCHANAN: Would it be  
12 reasonable to tie it to current production radios?

13 MR. EIERMAN: That's no problem with  
14 that.

15 COMMISSIONER BUCHANAN: I think that's  
16 probably the best it's going to get.

17 CHAIRMAN POWELL: Okay. Current  
18 production radios.

19 MR. LINK: Kenneth Link, MTA Police  
20 Transit in New York City. I was going to go along  
21 the gentleman from Motorola in the same way. First  
22 comment, I feel the five years is an adequate time

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1 period for the manufacturer. Logistically as well as  
2 the gentleman from Orange County, we have the same  
3 challenges as they do. But we do have some older  
4 fleet as well as everybody else might as well and the  
5 timeframe to do that and the software differences and  
6 clashes can be an issue. I can definitely agree with  
7 the gentleman from Motorola on that.

8 CHAIRMAN POWELL: The current production  
9 radio.

10 MR. LINK: That's correct.

11 CHAIRMAN POWELL: Ernie.

12 MR. HOFMEISTER: Ernie Hofmeister, M/A-  
13 COM Wireless. I guess we would agree with what David  
14 has said about Motorola. Five years sounds  
15 reasonable. It's not quite clear to me yet. We  
16 would have a product that goes with those radios, the  
17 radio software that programs them that would have  
18 that capability in it. As David said or others said,  
19 for existing customers they don't always buy the  
20 latest product that we have for programming radios so  
21 somehow you have to work a provision for that in.

22 I guess the other thing that bothers me a

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1 little bit is the word that's used "only." The  
2 software "only" allows that to be programmed in. I'm  
3 sure people take our software and other software  
4 users and others and may create their own  
5 modifications, hack into that software.

6 So I'm only concerned about liability  
7 coming back to the manufacturer for someone in the  
8 field modifying those things and lo and behold  
9 somebody goes to an emergency situation and they turn  
10 that radio on and that's the wrong channel. I'm sure  
11 our attorneys would want to study that situation I  
12 guess.

13 CHAIRMAN POWELL: We'd probably have to  
14 word that very carefully to say "Manufacturer-  
15 delivered software."

16 MR. EIERMAN: David Eierman again. On  
17 clarifying the existing radio software, a lot of it  
18 you can go in and manually put those names in there.

19 There's nothing preventing people from manually  
20 doing it today. It's just if you want to  
21 automatically say "This is the name" that's a  
22 software mod to the thing. We don't like to go back.

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1       We like to back and fix bugs but no more  
2       modifications than necessary to two or three  
3       generational radio softwares though.

4               COMMISSIONER DEVINE:   What we're looking  
5       for is the opportunity to have the inducer plug the  
6       frequency in and have the radio tell it what that  
7       frequency's name is.   However that happens  
8       voluntarily or not, it's fine.

9               MR. SORLEY:   Tom Sorley again from Orange  
10       County.   I disagree with tying it to new radio  
11       models.   If you are going to do a new version release  
12       of a software, you should be able to protect that  
13       field and prefill it.   I agree that you can't mandate  
14       it back if you are not maintaining this version of  
15       software anymore.   But if you are going to release a  
16       new version of software, it's not that much more  
17       difficult to put a name in and protect that field.

18               So for me, I believe it should be tied to  
19       the software version, not the radio version.   If they  
20       are going to update the software, then every new  
21       release from this date forward ought to have this  
22       feature in it.

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1 CHAIRMAN POWELL: John.

2 MR. OBLAK: John Oblak from E.F. Johnson  
3 Company. We also agree that the five year is  
4 certainly an adequate time. We would agree to any  
5 current software, in other words, software that's  
6 currently in maintenance. A concern we do have is  
7 obviously we provide radios not only to customers in  
8 the United States but worldwide as well. Maintaining  
9 multiple versions such as international versions  
10 versus U.S. versions may be fairly difficult when it  
11 comes to some of the existing frequency bands.

12 We certainly agree that the 700 megahertz  
13 band as a unique U.S. band poses no problem. I'm a  
14 little concerned about Legacy products and other  
15 frequency bands that may be offered for international  
16 versions.

17 MR. O'HARA: Sean O'Hara, Syracuse  
18 Research Corporation. I think we should all make a  
19 mental note that a lot of the work we are doing now  
20 in the software defined radios is a way to bridge the  
21 interoperability gap and really use all these  
22 channels. We're creating another thing that we need

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1 to keep track of as a requirement for electronic type  
2 acceptance of the software as we are talking about  
3 these radios and their implementation right now.

4 CHAIRMAN POWELL: Okay. We just got a  
5 note from our Federal users that they clearly intend  
6 for those UHF and VHF Federal channels to be law  
7 enforcement.

8 COMMISSIONER DEVINE: And they do  
9 differentiate.

10 CHAIRMAN POWELL: This is the general use  
11 which is the second block so we will make a change in  
12 that table. Those will show LAW instead of TAC on  
13 those channels.

14 COMMISSIONER DEVINE: Right, incident  
15 response will still be on that.

16 COMMISSIONER BUCHANAN: Well, I think we  
17 need to be real careful then how that's worded so  
18 that the manufacturers can take care of those  
19 concerns which are (1) that they shouldn't be liable  
20 if somebody hacks their software and (2) where it's  
21 used internationally the same channel they should be  
22 allowed to have an override in there for their

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1 international customers and (3) it has to be which I  
2 would term current production radios and software.  
3 They shouldn't be made to go back and change software  
4 that is out for radios that are out of production  
5 just to make this an additional feature. If we got  
6 those points in there, I could live with that.

7 CHAIRMAN POWELL: Okay. Any other  
8 comments from the floor? Anyone opposed doing this?

9 It looks like that is unanimous. Dave, I think  
10 you're up for your issues there or have they been  
11 covered?

12 COMMISSIONER BUCHANAN: Basically as far  
13 as the wide band standards, it's pretty much done  
14 with from this Committee's perspective. In fact  
15 since we went out of order and the Technical  
16 Subcommittee met first, it was unanimous consensus to  
17 recommend the TIA standards. There was a letter  
18 handed out on that. I think we're good there.

19 I guess really the only thing that's  
20 still up in the air on those standards is TIA is  
21 still trying to develop a text messaging application  
22 standard. It's obviously not done and there are some

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1 issues there. So I guess it's just that we support  
2 that effort that it should be incorporated when and  
3 if the TIA can get that standard developed.

4 You had the wide band loading tool. I'm  
5 not sure what you wanted to address on that with  
6 Sean.

7 CHAIRMAN POWELL: I just wanted really to  
8 confirm with Sean and to let people know that it is  
9 completed. There were a number of fields that you  
10 talked about such as locking so that people couldn't  
11 change those at the latest version. Sean, you can  
12 just give us a status report on that. Then that is  
13 going to be included with the Regional Planning  
14 Guidebooks on the software version.

15 MR. O'HARA: Sean O'Hara, Syracuse  
16 Research Corporation. Yes, I had basically locked  
17 certain fields that shouldn't be changed, made it  
18 look a little better. I also put a button on there  
19 that resets all the values to default values in case  
20 you put some values in there and you're not sure what  
21 reasonable values are.

22 That is on the NPSTC website right now I

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1 noticed. It's really easy to use but you can go  
2 there and you can look and play with it. I would  
3 recommend that rather than running it directly from  
4 the site you download it and run it. It looks a  
5 little better and it seems like it's less buggy if  
6 you download it and run it on your computer as  
7 opposed to trying to run it through the web  
8 translator.

9 COMMISSIONER DEVINE: Sean, I know there  
10 was discussion previously about a worksheet that's  
11 going to be included in the Regional Planning  
12 Guidebook or some kind of instruction method in order  
13 to explain to some of the RPCs exactly what  
14 conclusions they are getting here and just some of  
15 the criteria that's being established and what it is  
16 they are looking for when they make these inquiries  
17 into these cells. I think if we just put it out  
18 without some explanation, I don't think it's going to  
19 get used properly.

20 MR. O'HARA: It is out. What I will do  
21 is I'll work with the members of this Committee or  
22 the Implementation Committee or whoever. We can come

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1 up with a brief one-pager and submit it through  
2 dipsticking and get it on the site.

3 COMMISSIONER DEVINE: I think a single  
4 sheet would do wonders for the people who are going  
5 to end up working with this.

6 COMMISSIONER BUCHANAN: I think probably  
7 most of that should be taken up by the Implementation  
8 Subcommittee. Obviously you need to look at it  
9 somewhat on loading for the interoperability channels  
10 but they are not day-to-day where you need to figure  
11 out a loading on. I think it's just something we  
12 should refer over to their committee. Other than  
13 that, I don't think there's anything else unless  
14 someone has something on the wideband  
15 interoperability standards.

16 I guess there is one other item to  
17 clarify and make certain on this that the capability  
18 for the wideband standard. We're recommending unless  
19 it wants to be changed by the group here that the  
20 capability for that should be mandated into the data  
21 radios. My understanding is that I've seen something  
22 from Motorola indicating that if a different

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1 manufacturer is putting this in for the  
2 interoperability that they would license it at no  
3 cost.

4 I think this is very much the same as on  
5 the voice side that you need to have this in each of  
6 the radio modems that are going to be out there for  
7 the wideband general use channels. There you would  
8 have the interoperability in it. Is there any  
9 disagreement to that.

10 MR. SMITH: I'm Doug Smith from Data  
11 Radio. I would just like to point out to the  
12 Committee that I think this additional constraint to  
13 all equipment I don't really buys any additional  
14 inducer capability. In fact, I think it complicates  
15 the implementation of the radio. Obviously it's  
16 going to make it more complex. It's going to add to  
17 the cost. It's going to delay the introduction of  
18 equipment into the community at large.

19 Most important, what I'm worried about is  
20 that it's going to stymie the introduction of new  
21 technologies and potentially innovative use of these  
22 channels. If every data radio must operate on the

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1 interoperable channels, then things such as have been  
2 pointed out like in the some of the e-mails where it  
3 might be possible to use surveillance devices or  
4 whatever, it's not going to be really practical to  
5 include all the requirements of building an  
6 interoperable radio in those kind of devices. I  
7 think the Committee really need to look at that  
8 before they mandate that every wideband radio needs  
9 to operate on the interoperability channels.

10 COMMISSIONER BUCHANAN: Well, what would  
11 you propose because our big concern is users that  
12 this capability is there that let's say my agency  
13 picks your brand and agency X next door to me picks  
14 brand Y? What assurance do we have that since you  
15 don't want to install it that we're going to be able  
16 to talk to each other or have that capability inherit  
17 in the modem?

18 MR. SMITH: You won't. You have to go in  
19 that with your heads up.

20 COMMISSIONER BUCHANAN: That's the issues  
21 we've had with voice. That's what got us down the  
22 road to really ask for the standard when it came to

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1 digital modulation.

2 MR. SMITH: Absolutely.

3 COMMISSIONER BUCHANAN: The users feel  
4 that the capability needs to be there. It shouldn't  
5 be that a less sophisticated agency doesn't realize  
6 that they bought a unit that can't do that until they  
7 get out and they are ready to start doing some  
8 interoperability.

9 MR. SMITH: True, but what you need to do  
10 is take one step back and rise one level up. For  
11 narrow band, voice and data radios, it's not an issue  
12 because when we arrive at a crisis event and we  
13 switch to an interoperable communication capability,  
14 we can still exchange information primarily because  
15 we all speak the same language.

16 This is not the case when we talk about  
17 data devices. Unfortunately it wasn't in our mandate  
18 and we didn't look at developing or trying to evolve  
19 any standards for applications. Now text messaging  
20 is a step in the right direction but we have a long  
21 way to go before you'll be able to arrive at a crisis  
22 event and you and I will actually be able to exchange

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1 computer data.

2 COMMISSIONER BUCHANAN: Well, I agree  
3 with that but isn't it a step backwards if you don't  
4 have the basic hardware standard in the radio modems?

5 If it's not there, then you can't even develop any  
6 of the rest of the applications. So aren't you  
7 arguing against your own position here?

8 MR. SMITH: No, I'm not objecting to  
9 having a standard for operating on the interoperable  
10 channels. What I'm trying to point out to the  
11 Committee, I think it puts a damper on the general  
12 use channels. Surely users should have the  
13 opportunity to determine what portion of their  
14 capability needs to have an interoperable capability  
15 and what portion of the equipment that they deploy  
16 doesn't need to have that.

17 CHAIRMAN POWELL: That's been a  
18 longstanding problem and that we arrive at the same  
19 level of meeting interoperability for the first time.  
20 The capability isn't there so we don't have it.  
21 Certainly TIA is working on a text messaging  
22 standard. John, I don't know if you have any idea

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1       how long before that might be out.

2                       I know there is some real issues with  
3       even the protocols. JABBER is being looked at now.  
4       It certainly is under development. I think moving  
5       along TIA is trying to move it pretty quickly so it  
6       will be here. I agree with Dave that with text  
7       messaging being the first and a major application  
8       that's coming if we don't have the capability in the  
9       modems out the door, then no application is ever  
10      going to be able to work in an interoperability mode  
11      which is why we took the position that we did with  
12      data on the Swiss B channels. Glen.

13                   CHAIRMAN NASH: Glen Nash in this case  
14      representing the State of California. I would like  
15      to report to this Committee that a couple of weeks  
16      ago I was invited to attend a meeting hosted by the  
17      National Institute of Science and Technology  
18      ("NIST"). Several other people in the room were at  
19      that same meeting.

20                   NIST has begun an effort to take a look  
21      at interoperability and standards as an issue. A  
22      significant portion of that day and a half meeting

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1       dealt with issues of application interoperability in  
2       the public safety environment in looking at what  
3       would it take to standardize some of the  
4       applications, what would it take to enable the  
5       exchange of information all the way through the law  
6       enforcement process from field operations right  
7       through the courts and into the corrections arena.

8               Yes, we are in a very early stage of  
9       interoperability in the data world. It is something  
10      though that is being worked on. People are starting  
11      to look at it as a real issue that needs to be  
12      addressed. I think from a technology standpoint it  
13      is very important that the technology be able to  
14      support the applications as the applications get  
15      developed. If the two don't come together, we can  
16      never obtain it.

17              COMMISSIONER BUCHANAN: Yes, I think  
18      that's my concern with the position of data radio.  
19      If the radios aren't capable of doing the standard,  
20      then you come down the road three or four years from  
21      now and you're ready to implement those applications  
22      and the agencies won't be able to do it. I think

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1 we've only done half a job if we don't also ask that  
2 it's mandated that the radios be capable of it.

3 In this day and age of integrated  
4 circuits and flexible radios to the point where we're  
5 getting software to find radios, it's frankly just a  
6 software/hardware issue that yes, it's going to add  
7 some complexity but it's certainly not that much  
8 complexity to a radio. Again my own feeling is that  
9 we should do it. I don't know what the consensus  
10 beyond data radio for the rest of the group here but  
11 we need to figure that out also.

12 MR. WILHELM: David, may I make a point?

13 In Docket 9686, the Rules were drafted so that  
14 wideband data radios did not have to have that  
15 capability and the considerations discussed at the  
16 time were that there would not be standardization in  
17 either applications or terminal equipment. So if you  
18 make this recommendation, I think you should address  
19 those two issues.

20 At the time, the Commission thought that  
21 if there's a video camera on one end and a laptop on  
22 the other, it doesn't matter whether the RF portion

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1 is compatible. The camera can't talk to the laptop  
2 or more accurately the laptop can't talk to the  
3 camera. That's a better example.

4 COMMISSIONER BUCHANAN: Right, but I  
5 think we're trying to address some of those issues.  
6 I know NPSTC is one of the things we looked at. In  
7 fact, we have it in IP addressing and all that.  
8 We've referred back and I think NPSTC has taken that  
9 up. We're going forward as a public safety community  
10 to address those application issues.

11 I just get real worried. Why do we even  
12 go to the bother of having a standard on the  
13 interoperability channels if no one is going to use  
14 the standard or the radios aren't going to be capable  
15 of operating on them with the standard? To me that  
16 just doesn't make an sense. I realize there's a  
17 whole lot of work to do on standardized applications  
18 but I think it's clear that we're starting that work.  
19 Go ahead, Glen.

20 CHAIRMAN NASH: Glen Nash again.  
21 Michael, I think, in partial answer to your question  
22 there, if the radio was designed so that it was an

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1 integral part of the camera or an integral part of  
2 the computer, maybe I could agree with you. But to  
3 the extent that the radio is designed that it has an  
4 RS232 port that today I hook up to a camera and  
5 tomorrow I hook up to a computer and next week I hook  
6 up to a fax machine, therein becomes the problem.

7 That radio is not a single use device.  
8 It is being designed for multiple uses. It might be  
9 sold for a single use but next week when my needs  
10 change, I start using it for something else. We need  
11 that ability. The radio needs to operate in a  
12 standardized form so that we can use it for multiple  
13 purposes as our usage and the demand changes.

14 MR. WILHELM: Glen, please understand  
15 that I'm not disagreeing with your recommendation.  
16 All I'm saying is that when you make the  
17 recommendation you should acknowledge that the Rules  
18 do not now permit it, that it was once considered for  
19 the reasons that I mentioned ?

20 CHAIRMAN NASH: And I understand that. I  
21 was just addressing the question. They are not being  
22 designed as single use devices.

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1                   COMMISSIONER BUCHANAN: But I think what  
2 we need to get to is I'm sure data radios - I doubt  
3 if we've changed our mind - but we need to know what  
4 the consensus of the group is. Go ahead, Steve.

5                   COMMISSIONER DEVINE: Just one comment.  
6 I was at the NIST seminar with Glen and there's no  
7 double there's going to be obstacles to those future  
8 applications. However I don't think the  
9 compatibility and the lack of standardization of the  
10 equipment that we're going to use for some of those  
11 applications or at least are going to be allowed in  
12 those applications should be one of them. While it  
13 may seem to be something that isn't practical now, I  
14 think it will provide dividends in the long run.

15                  MR. SORLEY: I'm Tom Sorely from Orange  
16 County. I think it would be a foolhardy thing to do  
17 to enter into a whole new area of spectrum and not  
18 have standards in the radios. We're going back to  
19 square one. That's ridiculous.

20                         We definitely need standards because we  
21 don't know what the use of this device is going to be  
22 three years from now or five years from now the way

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1 technology is changing. We have to have it on a  
2 standardized platform. Any of us who have been  
3 struggling with these different platform that don't  
4 intercommunicate and don't allow us flexibility that  
5 we need to complete our mission know that. We have  
6 to have a standardized platform. Whatever it is, it  
7 has to be standardized.

8 COMMISSIONER BUCHANAN: Are there any  
9 other comments?

10 MR. KEARNS: Kevin Kearns with King  
11 County, Washington. I guess I would speak in support  
12 of what Glen said specifically with consideration of  
13 embedded devices that are really intended for one use  
14 that don't lend themselves to an interoperable kind  
15 of a solution if they are deployed so to speak as a  
16 kit, deployed as a system, used that way and aren't  
17 intended to operate that way, I think to keep the  
18 cost of the devices down where it's embedded like  
19 that. But I absolutely also agree with the point  
20 that if it's a generic radio modem, it needs to  
21 include all those interoperable capabilities and  
22 standards so that regardless of how it might get

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1 applied over its service life, that exists in the  
2 device.

3 COMMISSIONER BUCHANAN: I'm going to  
4 throw this out and then we can see if there's a  
5 consensus on it.

6 (1) The radio should be normally capable  
7 of operating on the interoperability channels under  
8 the TIA standards that we're recommending unless the  
9 radio modem is an integral part of another device and  
10 cannot be separated from that device.

11 (2) I think we can note that there are  
12 some issues of applications. Just because we adopt  
13 these standards, you cannot automatically speak but  
14 we are working on those issues separate from the NCC  
15 primarily through the NPSTC group. I think we could  
16 put that into the recommendation. I think we need to  
17 acknowledge that data radio disagrees with this. Did  
18 I cover everything?

19 CHAIRMAN POWELL: Just on embedded  
20 device, we probably should say "a non-messaging"  
21 embedded device.

22 COMMISSIONER BUCHANAN: All right. "Non-

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1       messaging".

2                   CHAIRMAN POWELL:   For example, then in  
3       parenthesis, put (Video) and then if there are other  
4       examples we wanted to include.   Sean.

5                   MR. O'HARA:   Sean O'Hara, Circuits  
6       Research Corporation.   I think along the same lines.  
7       If this is embedded device maybe even if it's a text  
8       device without a text standard right now, it maybe  
9       should be exempt from that standard but maybe you  
10      should not allow that device to operate on the  
11      interoperability channels either.

12                  CHAIRMAN POWELL:   That's a good point.

13                  COMMISSIONER BUCHANAN:   I agree.

14                  CHAIRMAN POWELL:   I think you're going to  
15      want to put video on the interoperability at least  
16      for fire.

17                  COMMISSIONER BUCHANAN:   Well, yes but you  
18      don't want to do it in a non-standard way.

19                  CHAIRMAN POWELL:   That's a good point.  
20      That point is then if you are operating a device that  
21      is not using a standard, you don't have to have the  
22      standard built into it but you're also prohibited

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1 from using it then on an interoperability channel.  
2 For example, a video link from an aerial platform for  
3 a fire could only be used on the interoperability  
4 channels if it was using the interoperability  
5 standard in its communications link. Ernie.

6 MR. HOFMEISTER: Ernie Hofmeister, MACOM.

7 A comment from the point of view of a manufacturer,  
8 we've been part of the process and supportive of the  
9 process. I have to say as a manufacturer including a  
10 mandatory interoperability mode in a radio is a  
11 burden to the designer. To design the radio, it  
12 would end up being some kind of a cost burden as  
13 well.

14 We've been a little disappointed that we  
15 haven't made more progress as a group on these  
16 applications. We've talked about that for awhile.  
17 We are certainly willing to support that sort of  
18 thing. We would like to be convinced that the users  
19 absolutely believe that they would need that mode and  
20 will use that mode and it's critical to their  
21 mission. If it's something that's required in the  
22 radios but never gets used in the future, we think

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1 that would be an undue burden.

2 I recognize you can't predict all these  
3 things in the future and you're talking about  
4 building baseline capability. I guess the point  
5 would be that we'd just like to make sure or be  
6 convinced that the users are convinced that they need  
7 that mode and will use that mode.

8 MR. McEWEN: I'm Harlin McEwen  
9 representing the International Association of the  
10 Chiefs of Police and National Sheriffs and other law  
11 enforcement executive organizations such as the Major  
12 City Chiefs and so on.

13 COMMISSIONER DEVINE: And anybody else he  
14 can find out there.

15 MR. McEWEN: And anybody else who would  
16 let me speak for them. In response to Ernie's  
17 comment, I'm fully aware of the concerns that he  
18 raises. In talking with police chiefs and sheriffs  
19 and others around the country about all of this,  
20 first of all, it's a highly technical issue that most  
21 of them don't understand very well.

22 As far as operational issues, it's clear

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1       that what they do want to do is make sure that we  
2       look to the future and how technology is going to  
3       offer us new and better products to be able to do  
4       things that we aren't doing today. To me, this is  
5       the opportunity to do that.

6               I don't know that anybody in this room  
7       can adequately answer the question that Ernie poses  
8       about whether we're going to use it. We hope we're  
9       going to and we think we're going to. I think that's  
10      the general consensus among most of the public safety  
11      people that I've talked to. The reason that we're  
12      recommending is because of our feeling that it is  
13      going to be the future way to do business. There is  
14      no crystal ball but in answer to his point, the best  
15      that we can see is that this is the right thing to  
16      do.

17             COMMISSIONER BUCHANAN: Yes, I can echo  
18      that to some extent from the talks that I've had with  
19      my own sheriffs, people and police chiefs in our  
20      county. It's something that they would like to do  
21      obviously. As Harlin said, they don't understand the  
22      technology but they do understand that if a deputy is

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1 out there or a police officer, they not only need  
2 voice communications but they need to message back  
3 and forth to each other occasionally because they  
4 don't operate anymore in a vacuum. You get adjacent  
5 agencies and they have to work together now. It's  
6 another tool that would allow that. From that  
7 standpoint, that's why I support it.

8 MR. VOGEL: Emil Vogel. Dave, an  
9 amendment or modification you were making if I  
10 understood what you said, you're saying the standard  
11 would not be required on non-interop channels. Do  
12 you then need to put the amendment in because really  
13 the standard you are recommending is only for the  
14 interop channels? I was just listening to what I  
15 think you read and I know you've been writing and  
16 trying to maintain the meeting. Read back what you  
17 wrote.

18 COMMISSIONER BUCHANAN: Well, what I have  
19 is incomplete notes here.

20 MR. VOGEL: And that may have been what I  
21 picked up but if you're suggesting that on the non-  
22 interop -?

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1 COMMISSIONER BUCHANAN: What I'm  
2 suggesting is that normally any radio modem for  
3 wideband channels that is capable of the general use  
4 should also be capable of operating on the  
5 interoperability channels under the TIA standard of  
6 50 kilohertz and with the exception that a unit for  
7 embedded use -?

8 MR. VOGEL: ?- would operate on the  
9 general use channels.

10 COMMISSIONER BUCHANAN: ?- operating on  
11 the general use channels if it's an embedded device  
12 it wouldn't need to and it would also not have the  
13 capability to operate on the interop channels. So it  
14 would just be a standalone dedicated and of only use  
15 for that and you wouldn't change the application that  
16 it's used for.

17 MR. VOGEL: Right and therefore the  
18 standard would not come into play.

19 COMMISSIONER BUCHANAN: Would not come  
20 into play, right.

21 MR. VOGEL: That's why I said "Do you  
22 need to make that if you're going to put it on the" -

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1 -

2 COMMISSIONER BUCHANAN: Well, I think you  
3 need to differentiate that because if we're asking  
4 the FCC to put something in the Rules, then we have  
5 to be clear what they are putting in there.

6 MR. VOGEL: And where they are putting  
7 it? Where it's applied?

8 COMMISSIONER BUCHANAN: Yes, where it's  
9 applied. That's the reason.

10 CHAIRMAN POWELL: Let's see how close we  
11 are to consensus.

12 COMMISSIONER BUCHANAN: Why don't you ask  
13 for just a show of hands or something?

14 CHAIRMAN POWELL: Beyond data radio, do  
15 we have any other disagreements with moving forward  
16 with the proposal as Dave just reiterated it unless  
17 data radio has changed our minds? Ernie, was yours  
18 in opposition or just a concern?

19 MR. HOFMEISTER: Just a concern. I  
20 wanted to reaffirm that the users believe that this  
21 is needed and will be used.

22 CHAIRMAN POWELL: I think Harlin spoke

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1 for the law enforcement community. I don't know if  
2 we have any others here to speak from our  
3 communities.

4 MR. LINK: Ken Link, MTA Transit Police,  
5 New York City. The MTA encompasses a 5,000 square  
6 mile area centering on New York City as well as the  
7 outlying areas. I know as the police department  
8 radio engineer, I offer any tool to the officers that  
9 will be of benefit especially this. We have several  
10 hundred terminals and the radio cars. If I can give  
11 them this one little bit of interoperability down the  
12 road, I'm sure at our border areas and state lines  
13 this tool will be beneficial for officer safety and  
14 non-officer safety as well. So we fully support it  
15 from our feelings as well.

16 CHAIRMAN POWELL: Well to the degree that  
17 we can arrive at consensus, I guess we have that,  
18 noting that we have one company in opposition and we  
19 will so note that. Any other issues in wideband  
20 interoperability? Any other issues from the floor on  
21 wideband interoperability?

22 Agenda Item No. 7 under old business and

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1 really what's left now on the published agenda is  
2 just some reports. You'll recall probably two years  
3 or more ago that this Committee with NPSTC began  
4 discussing an IP database for data and voice radios  
5 that were using IP as one of their protocols. NPSTC  
6 agreed to undertake that.

7           Within the last six months, we received  
8 funding from NIJ to carry that further. We're now  
9 looking beyond just an IP database but also at the  
10 whole issue of authentication because we have some  
11 systems going in around the country that are very  
12 wide area.

13           One of them right here in the D.C. metro  
14 area called CAPWIN. It's looking at interfacing a  
15 number of different agencies data terminals together.

16           Authentication is a big issue for them. Likewise in  
17 Southern California, we have a big regional system  
18 called ARGUS in the San Diego area that's being  
19 confronted with the same issues.

20           So we have received funding from the  
21 Justice Department to do an investigation, a White  
22 Paper, and are now looking at potentially some test

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1 beds and feasibility studies in this area probably  
2 moving towards regional databases that could be  
3 interconnected nationally to support roaming of  
4 public safety units around the country including as  
5 Steve pointed out in a meeting yesterday of "What  
6 happens when a guy from New Hampshire happens to be  
7 driving down the road and sees a fire on the mountain  
8 with some firefighters who are overrun or needing  
9 help and he's five states from home. How does his  
10 PDA interface into their system and at what level?"  
11 So we are really talking about this from full roaming  
12 to the person that just happens in the middle of an  
13 incident and needs communications.

14 Fortunately some of the new technologies  
15 and protocols being developed, particularly IP 6  
16 provides us with a lot of capabilities that we've  
17 never had before. We are looking at that entire  
18 breadth.

19 I'll also comment that Project Mesa at  
20 its last meeting in Ottawa began looking at some of  
21 these same issues. So we are moving in the direction  
22 to get something that would be a major benefit. It's

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1 not going to be easy if you look at the  
2 authentication meaning, roaming access potentially  
3 into controlled databases. So it's a major  
4 undertaking that is underway.

5 COMMISSIONER BUCHANAN: What's the status  
6 on getting the PS.gov done?

7 CHAIRMAN POWELL: Dave Funk, where do we  
8 stand on the PS.gov demand name at this point?

9 MR. FUNK: (Off the microphone.)

10 MR. WILHELM: David, excuse me. Would  
11 you stand to the microphone to make your comments?  
12 As usual, we're having this meeting transcribed so if  
13 you do have a comment and you would like to see it in  
14 print, please use the microphone.

15 MR. FUNK: Certainly. I do not have that  
16 information, John. That's in your Committee now for  
17 the NPSTC working group that I don't have. That was  
18 all turned over to your group.

19 CHAIRMAN POWELL: I thought that we had  
20 pushed forward the request to Justice.

21 MR. FUNK: I took as far as to give you  
22 the availability and that's in your group at this

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1 point. I don't have anything else to offer.

2 CHAIRMAN POWELL: Okay. New Business.  
3 Steve?

4 COMMISSIONER DEVINE: The Commission  
5 released the 4.9 Proceeding. Actually it was  
6 published in the Federal Register June 30<sup>th</sup>. There  
7 are some parameters and such that the actual year  
8 agenda indicates interoperability and standards but  
9 there are some issues pending that the NPSTC has  
10 created a 4.9 gigahertz task force that's going to  
11 hopefully provide some support to the regional  
12 planning committees at 700 that were empowered with  
13 facilitating this. The licensing is apparently 30  
14 days after the publishing in the Federal Register.  
15 Jurisdictional licenses will be eligible on July 30<sup>th</sup>.

16 There is apparently going to need to be  
17 some guidelines issued by the Commission to indicate  
18 to users exactly how to go about applying for those  
19 licenses. There was also language in the proceeding  
20 indicating that the 700 megahertz RPC should convene  
21 an initial planning meeting within six months and  
22 should also have a plan.

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1           A regional plan should be filed within  
2 one year of published in the Federal Register. The  
3 Rules don't indicate that specific language but it  
4 was indicated in the proceedings. Therefore there is  
5 still some clarification there that needs to be  
6 addressed. I can tell you that we had a 700 meeting  
7 back home and convened 4.9 after the 700 meeting was  
8 adjourned.

9           There was quite a bit of question with  
10 regard to the licensing and the jurisdictional  
11 licensing process and exactly that would be  
12 undertaken. The concept that we had but we were just  
13 at our first meeting was possible that licenses would  
14 be issued before real standard or any real  
15 acknowledgment of parties using the spectrum was  
16 responded to with some questions. I'm sure there  
17 will be questions in all of your regions most likely.

18       The way that it reads now is licenses will be  
19 proceeding as of January 30<sup>th</sup> or sometime near that  
20 point.

21           Like I said, NPSTC has established a task  
22 force that is going to try to develop some

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1 requirements and some standards to ensure that people  
2 in their communities can communicate with each other  
3 as well as support the regional planning committees  
4 in some of these requirements, in particular, the  
5 sixth month requirement. Perhaps maybe there needs  
6 to be some awareness that needs to be brought to the  
7 RPC level as well. NPSTC is going to work with that  
8 as well as the 12 month plan. Bob.

9 MR. SEIDEL: Bob Seidel from MACOM. You  
10 made an error there. You said "The licenses would be  
11 available January 30<sup>th</sup>."

12 COMMISSIONER DEVINE: I'm sorry. July  
13 30<sup>th</sup>.

14 MR. SEIDEL: Two weeks from now or a week  
15 and a half from now.

16 COMMISSIONER DEVINE: Right, thank you,  
17 Bob. Any other comments? Questions on that? The  
18 4.9 task force through NPSTC is going to support the  
19 RPCs in exactly how we're going to go about that  
20 which is before us.

21 COMMISSIONER BUCHANAN: I assume included  
22 in that you're going to give some recommendations on

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1 interoperability in this band.

2 CHAIRMAN POWELL: Actually we're going to  
3 go beyond that. I'll go ahead and talk about that  
4 NPSTC is going to be filing a Petition for  
5 Reconsideration on 4.9 specially discussing the masks  
6 which we believe are much too tight to permit off-  
7 the-shelf equipment to be migrated from adjacent  
8 bands. The manufacturers of the chip sets have  
9 already told us that very clearly. We'll probably be  
10 asking for the DRSC type masks that are in place for  
11 ITS up at 5.9.

12 We're also going to be asking that a  
13 standard be identified for interoperability. The  
14 problem with jurisdictional licenses is that you  
15 could potentially have a dozen or more agencies  
16 overlapping. Unless there is a standard, not only  
17 will they not be able to talk to each other but they  
18 could all try to talk at once to make the band  
19 completely unusable because of incompatibilities. So  
20 we're going to bring that back. That's an issue that  
21 NPSTC raised in its original filing and we're going  
22 to bring it back to the Commission again.

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1                   COMMISSIONER DEVINE: Another issue is  
2 and I believe we mentioned it at the last NCC meeting  
3 when we talk about interoperability in 4.9 in some of  
4 these applications it's going to be a different  
5 interoperability than what we are familiar with.  
6 There's going to be more infrastructure sharing. You  
7 could have agencies using hardware simultaneously  
8 while not really interoperating with each other, just  
9 utilizing the spectrum and some common hardware.

10                   In addition to that, the wire line access  
11 from some of these sites whether it be fiber along  
12 the roadside or whatever medium they are using  
13 probably I would imagine in many instances is going  
14 to be shared. Between the users, there's going to  
15 have to be the wire line access back to the networks  
16 in order for these overlapping agencies.

17                   You could find a piece of dirt where  
18 there are 10 or 12 different agencies wanting  
19 broadband access on it. That's going to require a  
20 significant wire line capability. The cost for that  
21 is probably going to be shared to some degree. We  
22 are really looking at a whole new way of doing things

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1 in many instances.

2 CHAIRMAN POWELL: The last item on the  
3 published agenda and I'm going to ask Marilyn Ward if  
4 she would comment on this briefly because it just  
5 should be reported in one of the subcommittees is  
6 NPSTC's role as a follow-on to the NCC.

7 MS. WARD: Good morning. Marilyn Ward,  
8 NPSTC Chair. Yesterday we had a very lengthy  
9 discussion about the NCC follow-up and how we were  
10 going to be able to continue the work of the NCC.  
11 Many of you know that NPSTC was created as a result  
12 of the PISWAC processes wanting to do a follow-up to  
13 the PISWAC and keep the group that had formed  
14 together.

15 As far as in NCC, we feel that it's just  
16 as important with the NCC group. We thought and  
17 discussed how would we do that. We actually decided  
18 that we should form probably a separate group that  
19 would be like a subcommittee of NPSTC asking the  
20 manufacturers and vendors to participate and then  
21 have a representative from that group selected to be  
22 on the NPSTC governing board to bring back the

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1 information. It's kind of what we do with our 4.9  
2 and SDR groups.

3 Tom Cody came to the meeting and the Edge  
4 All Program has submitted funding to fund this  
5 process. At the conclusion of the NCC, we'll be able  
6 to still keep a lot of these initiatives that are  
7 going to be critical to the community still going.  
8 So we've received funding.

9 We are working on the training. We are  
10 actually training and we've trained 20 people and as  
11 of next week, there will be 22 people trained on the  
12 database for the pre-coordination. We are exploring  
13 the IP database. So we have multiple different  
14 initiatives going on.

15 We feel that we have to continue to  
16 maintain them. We have used this forum to do some of  
17 that and to be as inclusionary as possible with the  
18 manufacturing community and people that are not  
19 necessarily association member of NPSTC. However we  
20 are working now to formulate a process to be able to  
21 continue this after the NCC. So NPSTC would like to  
22 be on record as doing that and have the support also

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1 of the FCC in being able to go forward.

2 MR. McEWEN: Harlin McEwen, this time  
3 speaking as Marilyn's Vice Chair of the NPSTC in  
4 support of what she just said but to point out  
5 particularly, Michael, for the record that we feel  
6 that there probably are going to be on-going other  
7 issues that we're going to need to convey to the FCC  
8 as this all starts to unfold.

9 The fact that the NCC may not continue or  
10 probably will not continue in its present form there  
11 needs to be some kind of a public safety industry  
12 involvement in discussions so that we can come  
13 together and talk about things just like we're doing  
14 today to exchange information and come to the FCC  
15 with what we believe is the best kinds of  
16 recommendations. I think it's going to be important  
17 to have that on-going follow-up.

18 CHAIRMAN POWELL: I'll just make a couple  
19 of comments on the details. First of all, the intent  
20 is that we hold meetings initially at least twice a  
21 year and they will be open. All of you that are here  
22 as well as anyone else in the community that wants to

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1 attend will be invited. NPSTC through the Support  
2 Office will provide meeting space and everything  
3 that's needed for meetings.

4 I believe we discussed and are planning  
5 to add two subcommittees, one for interoperability  
6 within NPSTC that will address interoperability not  
7 only within 700 but in just generally and then a  
8 separate 700 working group to look at probably will  
9 end up being more than anything implementation issues  
10 coming out of 700. We already have within NPSTC a  
11 subcommittee that represents the regional planning  
12 chairs. That currently exists so that we'll have  
13 input from the regional planning committees.

14 COMMISSIONER DEVINE: John, we also feel  
15 that from the regional planning perspective as these  
16 committees begin to develop and begin to put out  
17 products in many areas where the band is clear we  
18 don't have the incumbency issues, we're going to see  
19 more feedback and more issues and questions coming  
20 from the regions. We look to see that NPSTC is also  
21 providing the support in bringing those questions to  
22 the forefront and getting those questions answered

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1 from the regions as they begin to develop and  
2 generate some things that we haven't thought might  
3 rise to the surface. I'm sure there will be some of  
4 them.

5 CHAIRMAN POWELL: Any questions on that  
6 one from the audience? Any other new business that  
7 anyone would like to bring to the attention of the  
8 Committee? Seeing none, I guess we will adjourn.  
9 Wait. Dave Eierman.

10 MR. EIERMAN: It's not new business.  
11 It's just business. David Eierman, Motorola. I just  
12 wanted to clarify back on the nomenclature issue.  
13 The guidelines currently say "All 700 public safety  
14 subscriber equipment using alpha-numeric display of  
15 at least six digits should be programmed to show the  
16 recommended label and table and Appendix A." The  
17 issue is that some of those labels are now seven  
18 digits long. Some are eight digits long. I think  
19 the Fed ones are seven now because you have made  
20 something like FTAC or something. I don't know what  
21 we're going to do there.

22 CHAIRMAN POWELL: Well, that's a good

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1 point to bring up because actually I think they were  
2 not always that long.

3 MR. EIERMAN: I remember having a long  
4 discussion about six versus eight digits and six  
5 digits and you could direct mode some other way  
6 besides putting the D on there. I think the intent  
7 was that we were trying to keep the main part of the  
8 label except for the D for direct mode six digits or  
9 less. I don't know.

10 CHAIRMAN POWELL: Okay. How are we with  
11 manufacturers' equipment today? Six character  
12 limitation? Eight?

13 MR. EIERMAN: I don't remember. I don't  
14 think we have a problem with eight on most of ours.

15 CHAIRMAN POWELL: You're talking current  
16 production equipment. John.

17 MR. OBLAK: John Oblak from E.F. Johnson  
18 Company. Speaking for our products, for those radios  
19 that do have displays are at least eight. So we have  
20 no limitation on eight. Certainly we might have a  
21 product that has no display whatsoever.

22 CHAIRMAN POWELL: That's understandable.

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1                   MR. OBLAK: But on radios that do have  
2 displays, there are at least eight.

3                   CHAIRMAN POWELL: Ernie, for your  
4 products.

5                   MR. HOFMEISTER: Ernie Hofmeister, MACOM.  
6 It's really the same. Any display is capable of  
7 eight or more.

8                   CHAIRMAN POWELL: Okay. So it sounds  
9 like we should change that recommendation to eight  
10 then and resolve that issue. I don't know. At one  
11 time, there were some products that had fewer than  
12 eight. I'm not aware of any that are certainly being  
13 marketed today that have fewer than that.

14                   Any other comments? Any other items?  
15 Dave? Make sure that we get that document so I know  
16 what we're talking about. We'll include that in the  
17 letter to the Steering Committee tomorrow of the  
18 change since you have the document in your hand it  
19 looks like. Someone does.

20                   COMMISSIONER DEVINE: Is that in the  
21 guidelines?

22                   CHAIRMAN POWELL: Okay. If there are no

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1 other items, then we'll go ahead and adjourn our  
2 final meeting. I would like to thank all of you.  
3 This seems to have been the core crowd for the last  
4 few meetings for sticking with it to the end. I  
5 think we have accomplished an awful lot in the years  
6 that we've been working. Hopefully the community  
7 will someday realize the benefits that all of our  
8 joint efforts have produced for them. Thank you all  
9 for being here and for participating. Tom, are you  
10 going to do implementation since Teddy isn't here?

11 MR. SORLEY: Yes.

12 CHAIRMAN POWELL: Bette, how much time do  
13 you need? Should we do an early lunch and come back?  
14 Do it now? Glen's done. You got here later than we  
15 did and you missed it.

16 MR. WILHELM: Let's take ten minutes.

17 CHAIRMAN POWELL: We're going to take a  
18 ten minute break and Implementation will be on. Off  
19 the record.

20 (Whereupon, the above-entitled matter was  
21 concluded at 11:09 a.m.)  
22

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